REMARKS/ARGUMENTS

The claims have been amended as set forth above. Independent claim 11 has been amended for clarity reasons. The other independent claims have not been amended in that applicants respectfully disagree with the rejections set forth in the Office Action. Reconsideration and removal of the finality of this matter is respectfully solicited.

I.   Rejection of the Claims

Claims 1-3, 5, 8-14, 18-21, 23-27 and 30 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 7,249,748 issued to Stephan (hereinafter "Stephan"). Claims 7, 16, 17 and 29 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Stephan in view of U.S. Patent No. 7,069,272 issued to Snyder (hereinafter "Snyder"). Claim 31 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Stephan in view of U.S. Patent No. 7,043,472 issued to Aridor et al. (hereinafter "Aridor"). Applicants respectfully disagree with the rejections.

Independent claim 1 includes the following combination of features that is not taught or otherwise suggested by the cited references:

> obtaining keyword data corresponding to a set of data;
>
> generating *an inverted keyword index* and *a separate inverted keyword attribute index* corresponding to the keyword data, the inverted keyword attribute index including information from at least one category within a group consisting of language information, sentence information, ranking information, document timestamp information, and metadata information;
>
> *storing the inverted keyword index and the inverted keyword attribute index in a shared process memory*;
>
> obtaining a keyword query from a first process; and
>
> processing the keyword query us*ing the inverted keyword index and the inverted keyword attribute index stored in the shared process memory*.

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The cited references teach directly away from the above combination of features. As indicated in claim 1, claim 1 recites an inverted keyword index **and a separate inverted keyword attribute index**. It is clear that claim 1 is reciting two separate indexes. Each index includes separate information to cause different functionality. They are separately stored in the shared process memory and each is used to process the keyword query. With regard to Stephan, Stephan is teaching a single expanded inverted index. The inverted index itself is expanded to include further information. Stephan is not teaching the two separate indexes as indicated in independent claim 1. Stephan actually teaches directly away from two separate indexes as indicated. Stephan teaches that "[a]n expanded inverted list for an index term can be structured to improve phrase query searching *without using an auxiliary index*." (Stephan, col. 4, lines 21-23). Throughout Stephan, Stephan is teaching a single index. Accordingly, applicants respectfully request reconsideration and allowance of independent claim 1.

Independent claim 23 includes the following combination of features that is not taught or otherwise suggested by the cited references:

one or more processes for issuing keyword queries;

an index generation component for obtaining a set of data and generating an *inverted keyword index and a separate inverted keyword attribute index*, the inverted keyword attribute index including information from at least one category within a group consisting of language information, sentence information, ranking information, document timestamp information, and metadata information;

a shared memory buffer for storing *the inverted keyword index and the inverted keyword attribute index of a set of data*; and

a query processing component for processing keyword queries issued by the one or more processes *using the inverted keyword index and the inverted keyword attribute index stored in the shared memory buffer*.

The cited references teach directly away from the above combination of features. As indicated in claim 23, claim 23 recites an inverted keyword index **and a separate inverted keyword attribute index**. It is clear that claim 23 is reciting two separate indexes. Each index

includes separate information to cause different functionality. They are separately stored in the shared process memory and each is used to process the keyword query. With regard to Stephan, Stephan is teaching a single expanded inverted index. The inverted index itself is expanded to include further information. Stephan is not teaching the two separate indexes as indicated in independent claim 23. Stephan actually teaches directly away from two separate indexes as indicated. Stephan teaches that "[a]n expanded inverted list for an index term can be structured to improve phrase query searching *without using an auxiliary index*." (Stephan, col. 4, lines 21-23). Throughout Stephan, Stephan is teaching a single index. Accordingly, applicants respectfully request reconsideration and allowance of independent claim 23.

Independent claim 11 has been amended to include the following combination of features that is not taught or otherwise suggested by the cited references:

obtaining keyword data corresponding to a set of data;

generating an *inverted keyword index and a separate inverted keyword attribute index corresponding to the keyword data*, wherein the inverted keyword index is a *inverted keyword red and black tree index*, wherein the separate inverted keyword attribute index is an *inverted keyword attribute red and black tree index*, wherein generating the inverted keyword red and black tree index and the inverted keyword attribute red and black tree index includes:

(a) obtaining a first keyword from the set of data,

(b) inserting the keyword into the red and black index of the inverted keyword red and black tree index,

(c) inserting keyword attribute data corresponding to the keyword into a temporary keyword attribute index,

(d) repeating (a)-(c) for all keyword data in the set of data, and

(e) converting the temporary keyword attribute index into the inverted keyword attribute red and black tree index in the shared process memory buffer;
and

storing the inverted keyword red and black tree index and the inverted keyword attribute red and black tree index in a shared process memory buffer.

The cited references teach directly away from the above combination of features. As indicated in claim 11, claim 11 recites an inverted keyword index **and a separate inverted keyword attribute index**. It is clear that claim 11 is reciting two separate indexes. Each index includes separate information to cause different functionality. They are separately stored in the shared process memory and each is used to process the keyword query. With regard to Stephan, Stephan is teaching a single expanded inverted index. The inverted index itself is expanded to include further information. Stephan is not teaching the two separate indexes as indicated in independent claim 11. Stephan actually teaches directly away from two separate indexes as indicated. Stephan teaches that "[a]n expanded inverted list for an index term can be structured to improve phrase query searching *without using an auxiliary index*." (Stephan, col. 4, lines 21-23). Throughout Stephan, Stephan is teaching a single index.

Moreover, independent claim 11 has been further amended as set forth above. Independent claim 11 recites that generating the inverted keyword red and black tree index and the inverted keyword attribute red and black tree index includes the combination of: (a) obtaining a first keyword from the set of data; (b) inserting the keyword into the red and black index of the inverted keyword red and black tree index; (c) inserting keyword attribute data corresponding to the keyword into a temporary keyword attribute index; (d) repeating (a)-(c) for all keyword data in the set of data; and (e) converting the temporary keyword attribute index into the inverted keyword attribute red and black tree index in the shared process memory buffer. This combination of features is not taught or otherwise suggested by any of the cited references. Accordingly, applicants assert that independent claim 11 is allowable over the cited references.

With regard to the dependent claims, the dependent claims include features that are not taught or suggested by the cited references. Moreover, those claims ultimately depend from the independent claims set forth above. As such, they should be found allowable for at least those same reasons.

II.   Request for Reconsideration

In view of the foregoing amendments and remarks, all pending claims are believed to be allowable and the application is in condition for allowance. Therefore, a Notice of Allowance is respectfully requested. Should the Examiner have any further issues regarding this application, the Examiner is requested to contact the undersigned attorney for the applicants at the telephone number provided below.

Respectfully submitted,

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